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**CONSUMPTION  
AND RHEUMATISM**  
—  
**A SCIENTIFIC STATEMENT.**  
**Geo. Dutton, A.B., M.D.**

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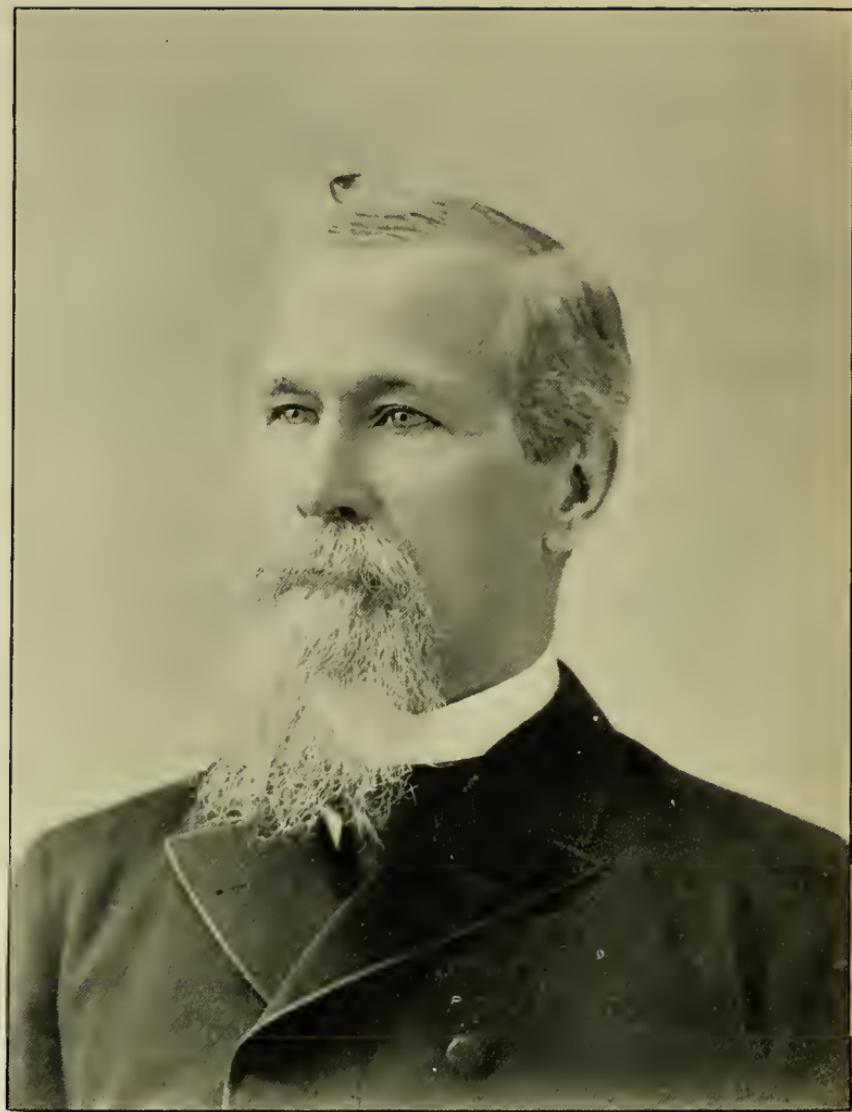












Sincerely Yours  
Geo. Dutton

# CONSUMPTION AND RHEUMATISM

A

SCIENTIFIC STATEMENT IN PLAIN LANGUAGE

OF THEIR

ORIGIN, TREATMENT, AND CURE

BY

GEO. DUTTON, A.B., M.D.

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ANATOMY, MEDICAL NOTES, HYGIENIC MANUAL,  
ONTOLOGY, SCHOOL CHARTS, ETC.

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## PROEM.

NOTHING but the great need of what the reader may find in this volume has induced its early publication. It was intended, when written, as a part of a more complete work on the double ART OF LIVING and the ART OF HEALING; for a knowledge of the art of healing necessarily includes a knowledge of the art of living, and *vice versa*. The Author of all being has not given us two sets of rules or codes of government, one for sickness and the other for health, but one code only, beneficent and universal. It is for all people in all times and places; and this code, in its perfection and its simplicity, as it relates to health and disease, it is the desire of the author to make known.

The larger work will require some months yet for completion; meanwhile many might suffer and die for want of *ideal* remedies found in this small volume. For this reason we have determined to send it out with the high hope and aspiration of the author that it will be gladly welcomed by all who love truth, and will help to save many from suffering and premature death.

Go, then, little messenger, to the homes and minds of sick and well, and make known to them a safe and sure method of recovering from these most common maladies and of securing to them the greatest possible degree of physical perfection and longevity. And may the fullest health, with its many blessings, attend every reader.

THE AUTHOR.

FRANK WOOD, PRINTER,  
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## TUBERCULOSIS, OR PULMONARY CONSUMPTION.

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TUBERCULOSIS is a technical name for what was once called Consumption, or wasting away of the lungs. It is the great destroyer of civilized life, carrying off prematurely one fifth of the entire population. It is a form of disease that has baffled the profession for centuries. Remedy after remedy has been announced, tried, and proved delusive. Reputations have been built on a false basis; the people have trusted, and been deceived. Within the last ten years a new branch of so-called science—Bacteriology—has been added to the medical curriculum, and the germ theory has been accepted by the profession, at large, as the cause of many forms of disease. In accordance with this theory it was announced by Professor Koch, in March, 1882, that the cause of consumption is the tubercle bacillus. This set the world agog. The cause of consumption, the great destroyer, had been found! The next thing was to find a germicide (germ-killer),—something that would arrest the ravages of this microscopic foe to human life. The microscope became at once an important instrument to the profession, and experimentation went on for years. Various germicides were tried, but all were found more or less injurious to the human organism.

In August, 1890, the International Medical Congress was appointed to meet in Berlin, the residence of the great scientist Robert Koch. It was generally rumored that some important papers on the subject of the tubercle bacillus would be read on that occasion. At the time appointed, the physicians assembled from all quarters of the world. As Professor Koch rose to address them, the interest of the meeting culminated. He had discovered the cause of consumption (tuberculosis) eight years

before, and was now to make known the method of its cure ; and when he stated that he had hit upon a substance which had the power of preventing the growth of the tubercle bacillus, he was greeted with loud applause. He announced that the direct action of solar light for several hours on the tubercle bacillus destroys its virulence ; and that the *possibility* of rendering disease-producing germs in the living body harmless, without injury to the latter, has been established. In November following the meeting in August, it was given out that Professor Koch was ready to make inoculations for the cure of incipient consumption on a general scale. Directly there is an exodus of physicians to Berlin, about to become apostles of the new mode of cure. The toxic agent necessary to destroy the bacillus was secured, and experiments followed. What is the result ? So far as we can ascertain, not one cure has been effected. The supposed remedy is not only useless, but dangerous ; and most of those subjected to the new treatment are already dead.

Now, what can we think, and what shall we say, of a profession that is so grossly deceived, and makes such fatal mistakes ? Is it not time for the people to take a matter of such importance as health into their own hands ?

*Science should be a common possession* ; and especially sanitary and medical science. We have a firm conviction, established by reason, study, and demonstration, that there is a simple, natural, safe, reliable, cheap, and universal remedy, always at hand, for tuberculosis and all lung difficulties ; but we must not tell you what it is at once, lest it be undervalued. We must, first of all, understand the *nature of the lungs*, and something, also, of lung difficulties. The lungs *imply air*. So do the wings of a bird. From the lungs we learn that some element or function of the air is necessary to animal life ; and from the wings of a bird we learn that the air is a real substance, capable of supporting the

body of the bird that makes use of its wings. As a bird cannot fly without using its wings, so a person cannot live without using his lungs. To learn to use the lungs properly will save millions of the human race.

The blood goes to the lungs for air (or oxygen, one of the elements of the air), and, like a faithful messenger, the blood will not leave the lungs till its mission is accomplished; and remaining in the lungs till the vessels are crowded is another name for congestion, which is the beginning of disease. Congestion (a crowding together of blood) soon becomes inflammation, and inflammation develops tubercle, or tuberculosis. Tuberculosis signifies a condition of tubercle, nothing more. Now what is tubercle, and what is inflammation? Inflammation is a stasis (standing) or stagnation of blood. The blood crowds into the lungs to get oxygen, and to deliver up, also, its carbon; and failing to accomplish its purpose it lingers, moving sluggishly for a while; then, as the crowding increases, the circulation stops; then it is that the lung is inflamed. Tubercle is no part of a healthy body. According to the derivation of the word, tubercle is a "little tuber;" and a tuber is properly (when applied, as it commonly is, to plant life) a thickened portion of a root-stock. In medical language a tubercle is a little nodule, knot, or lump of matter, foreign to the tissue in which it is found. It has no sensation, no motion. It is dead matter; waste matter; the result of sluggish action; deficient action. It is, as we may say, the ashes of the body; and grows, not like an animal or plant, from within itself, but by accretion, like the mineral. It has no resemblance to the natural tissues, and never exists in a healthy body when the circulation is kept in full play. Now, it was in tuberculous matter that Koch found his bacilli, or micro-organisms. They do not infest a healthy body. No tubercle, no bacillus is the fact. No disease, no micro-organism. The

disease antedates the micro-organism. How, then, can the bacillus be the *cause* of tuberculosis? It *cannot*; it is only a concomitant. It is rather *an effect* than the cause of disease.

There are several other terms for consumption, but they all signify one thing, wasting away. Phthisis, marasmus, tabes, all imply emaciation, which is one of the prominent symptoms of pulmonary consumption. Tuberculosis (condition of tubercle) is not always confined to the lungs, but is more commonly used as a synonym for phthisis, or pulmonary consumption. The other most prominent symptoms of phthisis besides emaciation, are a distressing cough, with more or less expectoration, night sweats, and very often, in later stages, diarrhoea. We need not dwell on symptoms, as they are already two well known. Hemorrhage from the lungs, or spitting of blood, sometimes terminates in phthisis. Now, hemorrhage occurs because the lungs become gorged with blood, or, in other words, congested; and it occurs most frequently in those persons whose muscular systems are not well developed. The lungs, or vessels of the lungs, would bear more distension with blood without rupture, if the tissues were rendered firm by judicious development of the muscles. A good development of the muscular system gives firmness to every tissue of the body. There are two kinds of hemorrhage from the lungs which it is necessary to distinguish, as the treatment is exactly opposite in the two cases. If the lungs have been injured mechanically, as by a bullet, or sword-thrust, the treatment is perfect rest, quiet, and *moderate* breathing, with *cool* drinks, if any, and the absence of all stimulants of every kind; but, on the other hand, if there has been *no local injury* of the lungs, and the hemorrhage occurs simply because of congestion of the lungs,—which we call *passive* hemorrhage,—then we advise deep and full inspirations to air the blood, rubbing of the extremities to get them warm, and warm food or drink; the object being to re-estab-

lish the normal circulation of the blood. In *passive* hemorrhage we give active treatment, and in *active* hemorrhage (where the lung has been wounded), passive treatment. We shall always succeed by so doing in saving our patient where success is possible, because our treatment is rational. In resorting to deep and full voluntary breathing, it is always advisable to begin moderately. The first deep breath may be partial, taking in only a *little* more air than was usually taken unconsciously; and after three or four moderate respirations the breathing may be a little deeper and fuller until the circulation is fully restored to a normal condition. Now this is our remedy for phthisis,—*deep and full voluntary respirations*. And not only is this a remedy for consumption, but it is a remedy as well for asthma, coughs, colds, bronchitis, and all lung difficulties. A cold can be broken up in an hour, simply by *using* the lungs to oxidize and decarbonize the blood. A cough can be allayed at once in the same way. What is a cough? 'Tis a signal that there is something either in the lungs or stomach that ought not to be there; something that irritates the pneumogastric (lung and stomach) nerves. If the offending matter is in the stomach, it is probably undigested and fermenting food that is breeding a pestilence in the body; and the *stomach* should be cleansed, not necessarily by an emetic, however mild, but by correcting the food and eating habits. But even in this case deep and full respirations will so far satisfy the nerve centers that the cough may be thus removed, for they will invigorate the circulation, and promote the healthy action of every organ in the body. If the offending matter that causes a cough be in the lungs, it *may* be something just inhaled, like some noxious vapor, gas, or dust; but more commonly it is *carbon in the blood*, in the form of carbon dioxide ( $\text{CO}_2$ ) or carbonic acid gas. This gas constantly loads the venous blood, and renders it unfit for arterial circulation; and unless it is removed from the blood in the lungs,

by being allowed to mix freely with a sufficient quantity of atmospheric air about to be expelled, the lungs become congested, and a cough is, or should be, a reminder that respiration is *insufficient*.

If noxious vapors, gas, dust, or other irritating substances inhaled are causing coughing, the only sensible treatment is to seek at once a purer atmosphere. The gas from coal stoves or furnaces escaping into the rooms of houses, schoolrooms, and workshops, is a constant menace to health. Even under somewhat unfavorable circumstances, the breathing of *much* air rather than little will tend to prevent cough. But when a person is only to be *momentarily* exposed to a smoky, poisonous, or bad atmosphere, it is wise to hold the breath, and thus prevent any ingress of irritating matters, if possible; as in passing through a cloud of dust, or a room filled with smoke, or in opening a stove door soon after fresh coal has been added. We ordinarily breathe to unload the carbon from the blood, and supply it with oxygen, about eighteen or twenty times per minute; but melancholy, grief, and many other emotions act like a brake upon the wheel to reduce the rate of breathing or suspend temporarily pulmonary action. So it is necessary either that the mind, or soul, shall be fortified by a true philosophy of life, or else that we shall *voluntarily* attend to the vital process of full and deep breathing; and especially is this important when we are notified by some morbid symptom, as a sigh, sneeze, or cough, that the *blood needs air*. There are *two* things *more important* still to life and health than is food, which is admitted by all to be a necessity; one is the vital essence, spirit, or disposition to enable us to live, and the other is air. Without the first we cannot live at all; without air we cannot live many minutes; but we may live days, and even weeks, without food. Too much food and too little air, either or both, clogs the vital machinery and brings disease. We

need enough food, but any excess soon interferes with health. There is little if any danger of taking too much air or too little food, if we can get it. What is called a "cold" is sometimes the incipient stage of consumption. Persons who live constantly in the open air night and day, rarely if ever take cold. The same is true of animals that live constantly in the open air, as all wild animals do. They never die of consumption. It is not the outdoor air that is dangerous, but the indoor, heated air, that fails to aerate the blood. An excess of carbonaceous food, fats, starch, and sugar, and a deficit of oxygen, very quickly clogs the blood in the capillaries and lungs, and under such conditions we have what is called a cold on the slightest exposure; but with an abundance of air to oxidize the blood, and activity to keep it in motion, it is almost impossible to catch cold. Keep the blood at all times well aired. If the blood is thick with fibrin, caused by an excess of albuminous, or nitrogenous food, the least draft of air upon some *part* of the body is dangerous unless met by a large draft of air into the lungs to vivify the flame of life within. Good breathers rarely or never have colds. And if a cold is contracted it can be immediately removed by internal drafts of air. George Catlin wrote an entire book on breathing. It was entitled "The Breath of Life." The burden of the book is to *breathe through the nostrils*. The air becomes partially warmed and sifted in passing through the nasal passages, and thus the lungs are better guarded. It is not wise to chill the blood. Great extremes of temperature kill the blood corpuscles. Pneumonia (inflammation of the lungs) abscesses, and other grave forms of disease, arise sometimes from freezing or chilling the blood. The blood cannot circulate at a greatly reduced temperature any better than water can run or flow when frozen. To keep the blood warm by *physical exercise* is generally better than by any artificial heat. During sleep, and at all other times, the clothing should be light as is

compatible with comfort. Flannel blankets are warm, and still light. For persons troubled with any lung difficulty an equable temperature of the air or room is quite important; 21° to 24° C. (70° to 75° Fah.), if the patient is not too delicate, is a moderate degree of heat. Very old and delicate patients require more artificial heat,—27° C. or 80° Fah.

Plants *living and growing* in the sleeping room are wholesome, if kept fresh and vigorous, and free from dead leaves. *Cut* flowers are not wholesome any longer than they can be kept quite fresh. Plants while growing consume carbonic acid gas ( $\text{CO}_2$ ), and give back to the air, or liberate, oxygen for the use of man.

This is well illustrated by the words of Saadi, a Persian poet, as follows :—

“A rosebush blooming with flowers and a nightingale were imprisoned together in a cage of glass. Each owed its life to the other. Deprived of fresh air, the bird would soon cease to swell its little throat with harmony. The rose eagerly absorbed the air that had been breathed by its loved Philomel, and retaining the carbon, to increase its growth, blushed brighter tints, and returned the oxygen to be inhaled anew by the bird of song. And so often as the nightingale loaded the air with effluvia pernicious to itself, the rose neutralized the poison in its own bosom, and returned fresh air to its fellow-prisoner; till at length the nightingale expired of old age, singing its dirge of gratitude, and then the rosebush withered away.”

In the winter season, when vegetable life is latent, the air is purified for animal life by the trade winds, that carry the air to the tropics where vegetation abounds, and return it purified. An atmosphere where vegetation *thrives*, unless they are poisonous plants, is favorable to health. The reciprocity between plants and animals binds them perpetually together as mutual companions.

That phthisis is a curable disease, is proved conclusively by the autopsy (self-view) of the body of those who *have* recovered.

A scar (or cicatrix) has been repeatedly found upon one or both lungs of persons who have died of other causes. Miss Philetta Partridge, of Randolph, Vt., is a case that we may cite. She lived with her brother-in-law, Mr. Graves, at Randolph Center. About 1870 (we quote from memory) Miss Partridge was attacked with pneumonia, and after a week's illness died. The author was called to make an examination of the body. Dr. Noyes, under whose care she had been, and Mr. Graves were present. When we came to the lungs, a manifest scar was visible upon one of them more than an inch in length. We remarked: "Here is visible evidence of an old abscess of the lung. This patient must have been previously afflicted with consumption. Do you know anything about this previous illness, Mr. Graves?" He did not, but went immediately and interrogated his wife, the sister of the deceased. He came back with the information that "Philetta had consumption fifteen years ago, and the doctors said that one lung was all consumed." Now, this one case is as good as a hundred to establish the fact of the curability of disease of the lungs. The patient is always curable so long as there is lung enough left to aerate the blood. But the secret of cure has not been generally known. Horseback riding has been announced as being incompatible with consumption; but the rationale has not been given. It combines pleasure with air and exercise. The disease has not been understood, and to this day is considered by many as the result of mal-assimilation of food, or, in other words, a form of dyspepsia or indigestion; and the tubercle has been considered as the degenerate product of nutrition. One author (see Chambers' "Manual of Diet," published by Henry C. Lea, Philadelphia, p. 297) says that we look upon tubercle "as an infant tissue strangled in its cradle." With this view (to our minds erroneous) of the nature of tubercle, cod-liver oil has been prescribed, as being more readily assimilated. The patient

was emaciated, and therefore oil or fat was supposed necessary to *fatten* him. They did not stop to think that oil does not produce heat or flame—to which life is often compared—*without oxygen*; and that the consumptive cannot consume as much fat as one who has the full use of his lungs, because he cannot oxidize it. It is not fat that he wants, but *oxygen as found in the atmosphere*, to which all have access.

The tubercle is not in any sense a product of nutrition, but a *deposition*, from the sluggish circulation of matter entirely useless in the animal economy, and which should have been, under normal conditions, eliminated through the lungs by the process of oxidation; in other words it is the product of imperfect combustion (oxidation). We use the word “combustion” simply to make the idea more vivid. Oxidation is really a process of *slow combustion*.

Whenever the blood vessels in any part of the body are overloaded or distended, there is a constant tendency to transudation, or exosmosis. In inflammation of serous membranes we often get an effusion of serum, and this gives us dropsy of the heart (hydrothorax), or of the abdomen (ascites). In case of a sluggish circulation through the general capillaries, we get dropsy of the flesh (anasarca.)

Now, the lungs are charged with *venous* blood (in addition to the bronchial, or arterial circulation) for a double purpose; one is to obtain oxygen, which is absolutely essential to animal life; and the other, to discharge into the atmosphere, as through a chimney, one of the well-known products of combustion; viz., CO<sub>2</sub> (carbon dioxide). And the moment the lungs do not perform their office, that moment those blood vessels of the lungs that carry venous blood become distended and overloaded, and the tendency is to transudation of some portion of the blood. *After* the transudation takes place the lymphatic vessels, which

are microscopic in size, can take up and return to the circulation the thinner, or more watery part of the matter transuded, but must leave in the lymph spaces other waste matter to form tubercle. The tubercle is the *refuse*, not of arterial blood which conveys nutriment to every part, but of the overloaded and clogged venous blood. The remedy is, not to load the blood with fatty matter, that cannot be oxidized, nor with any other material in excess of the wants of the system, which must be chiefly determined by the call of an honest appetite, but *to arterialisize the venous blood,—DEEP, FULL, VOLUNTARY BREATHING.* Dr. Chambers, of London, Eng., who gives some very good advice about exercise, gives some very bad advice about medicine; and this fact is evidence of the necessity of the patient to understand for himself. His *good* advice is this: “The full powers of digestion should be brought into activity by plenty of open air and exercise, within the bounds of weariness.”

His bad advice we do not like to give, and do so only to show how very bad it is. It is found in his “Manual of Diet,” p. 299. In speaking of fish oil he says: “I then advise the oil to be taken as a parenthesis in a mixture of quinine, or of strychnine, or of both together. If there is persistent nausea afterwards, a few drops of hydrocyanic acid may be added each time.” Now, here are two most deadly poisons advised,—strychnine and hydrocyanic, or prussic acid; and of the latter enough to kill a patient with a single dose,—“a few drops!” Why, a single drop on the tongue of a dog kills almost as suddenly as a bullet. Of course he meant the *dilute* acid, but he doesn’t say so. And even the dilute acid we do not advise. Excitement of the nerve centers, which strychnine produces when given, is not life; ’tis rather a manifestation of the danger of approaching death. We all know the nature of strychnine, but somehow we have imbibed the erroneous notion that these

things are not poisons when prescribed by a physician. Let us come to our senses, and call things by their right names. A poison is a poison always and everywhere, in any quantity, however small. It may be used rationally *for killing*, or destroying life, but not for curing, *unless* the cure involves, also, the process of killing. This is logic, and there is no escape from it. Our premises may be erroneous sometimes, but from *certain* premises certain results must always follow. Logic is not a bad medicine. At any rate it is less dangerous than hydrocyanic (prussic) acid.

As to the use of alcohol in consumption, Dr. Chambers says, "In the early stages of tubercle, I have no hesitation in pronouncing an opinion *adverse* to it." In this we agree with him fully. All alcohol tends to harden animal tissue (you can easily test it by putting flesh into it), and will interfere more or less with the passing of fluids and gases through animal membranes, which is essential to healthy action. All distilled liquors, unless "aged" or rectified, contain more or less "fusel oil," which is an acrid poison.

But alcohol has another property which has been more or less overlooked by the profession, and that is its antiseptic nature. It arrests putrefaction; and if any antiseptic *must* be used, this is one of the best. Again we quote from Dr. Chambers. "If the morbid matter *has broken down*, and there is either nocturnal perspiration, copious purulent expectoration, diarrhoea, extreme emaciation, or depression of spirits, wine, especially port wine, in quantity equal to the occasion, is often of decided use." Of course he means pure grape wine. The difficulty of obtaining pure liquors, free from fusel oil, is one objection to their use in medicine, even *as an antiseptic*. *Deodorized*, or rectified alcohol is generally the most suitable to be used in compounding medicines. The habitual dram-drinker

cannot inhale so much air by 20 or 30 cubic inches at a single inspiration as the temperate man, and after forty years of age the drunkard rarely recovers from an attack of pneumonia, dysentery, fever, or any other zymotic form of disease. Notwithstanding these facts, there is little doubt that a small quantity—a spoonful or two—of pure, spirituous liquor, aged rum, or whiskey two or three times a day, taken in milk or water, in cases of *advanced* consumption of the lungs, or during the formation of pus or abscesses, may serve to *retard or arrest the putrefactive process*. It must be taken in connection with suitable exercise and deep breathing. For night sweats we know of nothing better than cold and weak sage tea, taken freely, a half pint or more, before retiring. In the code of Salernum we find this,—

“ Why should he die whose garden growtheth sage?

No other plant with death such strife can wage.”

Some say that cold water is just as good as sage tea. We are not quite clear on that point. The mineral acids have been given for night sweats by the ordinary schools of medicine; but we object to those, and beg to offer as a substitute lemon juice diluted with water till made agreeable to the taste, and used freely.

As for food for consumptives, we recommend, in moderation, raw eggs and milk, or eggs slightly cooked, nice fruit, rye mush and cream, bread and milk, barley pudding made with milk but *not* eggs, and some nice vegetables—well cooked onions, baked potatoes, parsnips, and winter squash. Endeavor to secure digestion, *without fermentation*. May give mild or weak milk punch, or milk with a little rum added, in *advanced cases*. Keep the bowels in order by the diet if possible, and otherwise by the use of the fountain syringe. Apples and pears, unless very nice, must be *cooked*, as otherwise they are likely to lead to

fermentation. A little nice butter may be used, but generally sweet cream or good milk is better.

As to location, it matters less *where* the patient lives than *how* he lives. Still there is a choice in climates. High altitudes *will compel* expansion of the lungs. The air in such places is less dense, and consequently a greater volume is required to furnish the necessary oxygen; and if consumptives are able to live for two or three weeks in such places they generally get better. A dry and cool climate is better for such patients than a warm and moist climate. Even apples decay quickly in a damp, warm atmosphere. The consumptive must always keep *reasonably warm*, but cool air, short of chilling the blood, is nice to breathe.

Patients who have recovered in high altitudes, like Colorado, are generally advised to remain there, where the lungs and chest are adapted to the rarer atmosphere. If they go again to lower altitudes they are apt to relapse, because they do not understand breathing. Wherever they recover they must be cautioned to lead an *outdoor* life of regularity, *free from all excesses*. To test the capacity of the lungs, if desirable, use the spirometer. The index will show the number of cubic inches of air you can exhale at once. Two hundred indicates good capacity. In the absence of a spirometer, fill the lungs and notice how many seconds you can *count* without taking breath. The consumptive is short of breath. A well person can count for twenty or thirty seconds; a consumptive ten or less. The cause of consumption is generally supposed to be "taking cold," although Professor Koch declares it is the tubercle bacillus. We do not consider *either* as the cause of consumption in any true sense. Persons never take cold who do not clog the system, and who at the same time breathe an abundance of pure air by night as well as by day; and the tubercle bacillus is never found in a healthy lung, or other healthy tissue. The real cause of consumption, then, is

NOT KNOWING HOW to breathe, eat, and live. Ignore it as we may, the consumptive fails to breathe sufficiently to oxidize and decarbonize the blood. Grief, depression of spirits, exhaustion of the vital force, disappointments, or some other reason interferes with breathing. The mind has not, in such cases, been properly fortified by culture, reason, logic, or philosophy, to maintain its equipoise and vigor. Contagion, which some consider to be the cause of consumption, cannot be the *primary cause* of any disease whatever; since it is manifest that somebody must have had the disease *at first*, without contagion, before he could communicate it to others. The *first case* that ever occurred could not by any possibility have been a case of contagion. Disease is developed and perpetuated by wrong living, and **RIGHT LIVING** will banish it from the face of the earth.

Another erroneous idea is bound up in the word heredity. We inherit *tendencies*, but not absolute disease. No child will ever suffer actual pain on account of its parentage. Badly born as it may be, if properly fed and cared for, and properly taught, all actual disease (or symptoms of disease) will be removed before memory is established in the mind of the child. Children suffer and die of the same disease as their ancestors only because they pursue the same course and commit the same errors. And tendencies are very strong. Cart wheels *wear ruts*, and it is difficult for teamsters to get them out. Habit is a good thing, because it enables us to do easily, and almost unconsciously, what at first is only done with great care; but it counts in all cases whether the habit be good or bad. It is the law of our being, and should be an incentive to *good* habits, and a warning against error.

So-called hereditary disease is as curable as any other by proper action; but owing to the strong tendency *against* proper action, it is less likely to be cured. It requires a change of habit—

a change of life. This, drugs do not effect. The change must first be wrought in the mind, or soul. It will then be realized in the body. Intelligence and understanding is the only true remedy for disease. The person with long neck, stooping habit, and narrow chest belongs to a consumptive family, simply because his ancestors have neglected exercises that develop the chest and lungs; but that does not prevent *him* from taking open-air exercises and leading a correct life, and if he does so, his family will become divorced from consumption at once. Our destiny, and especially our health, is in our own hands to a great degree. The dead need not rule us further than wisdom, truth, and justice direct. *Manly sports and industrial labor* that call into use the *muscles of the arms and chest*, are especially *anti-consumptive* when taken in the open air, or in well-ventilated rooms. The neck is long, if long it be, because the thorax, or chest, is short; that is, *undeveloped*. A long-necked person has no more vertebræ in his spinal column than a short-necked person; but the chest of the latter rises up higher,—has been developed, and is more capacious. That is why a long-necked person is more liable to lung disease. He has not *breathing capacity*, nor properly developed lungs.

Bleeding from the nose, and, also, from the lungs, is considered an *unfavorable sign*, or a *premonitory symptom* of consumption; but it is so only as it shows that the *venous circulation is clogged*, and the tissues of the lungs and mucous membrane of the nose are not firmly knit by habitual and healthful exercises. From all these symptoms we are to learn something. A proper use of the lungs will, at any time, help to *unload* the venous circulation; and if we cannot, or do not make a free use of exercise in the open air, which compels full respiration, then there is nothing left us but deep and full *voluntary breathing* to change the venous blood and unload the veins. The practical

study of botany in the fields and woods by ladies, would be more conducive to a health education than long practice at the piano. Indolence and inactivity sooner or later prove fatal. Unwilling and excessive toil is also prostrating. The gods sell all good things for labor; not drudging labor, but cheerful activity. There is no substitute for labor. *Industrial* labor, useful labor, must always be preferred to gymnastics; but the latter must not be despised. Heavy weights and apparatus are not essential for gymnastic exercise. All that is necessary is to *put the will* into the muscles. To *imagine* you are lifting, and to contract the muscles as you do *when* lifting, is sufficient. The use of the will upon the voluntary muscles brings them into exercise. The involuntary muscles are more directly under the control of the passions and emotions.

Singing is admirable for the lungs. There is a harp in the *larynx* (the principal organ of voice), but it often remains undiscovered. The Latin word for harp is *lyra*, and those four letters are all found in the word larynx. Use it, but use it properly. Join the chorus, and learn to sing. It will help to develop the lungs, but will not take the place wholly of muscular exercise of the arms and body.

Fresh provisions for consumptives and all others are far preferable to salted provisions, for general use. Salt may be useful at times as an antiseptic, but it interferes seriously with the passage of fluids through animal membranes, and shrivels the corpuscles of the blood. It should, for these reasons, be used sparingly, and only as a medicine. To keep the *feet dry, and comfortably warm* by cheerful activity, and *not* by artificial heat, is a prophylactic. Use the will power (volition) to command and subjugate the body. The body is an instrument only for your use; and you must not set it going and leave it like a *wild engine* upon the track, but keep it

ever in hand, as your servant, utterly obedient to your will. Persons have died of *supposed* consumption whose lungs were found, on examination, perfectly sound; and it is believed by many most intelligent people that cholera is in most cases the result of fear. Fear of disease depresses the spirit, and invites attack. Not only do not invite disease, through fear or neglect, but *refuse it admittance* whenever it presents its image. Your body is your tenement, your castle; and as you would not willingly admit an enemy into your house or castle, do not admit disease. If you find yourself coughing, unless it be necessary to expel some noxious intruder upon the lungs, countermand the order at once. The remedy for a cough, once given by a neighbor, was to *stop coughing*. If the volition is not sufficient, a few deep inhalations of air, or rubbing vigorously behind the ear, will enable you to succeed. All coughing *not necessary* to free the air passages from thick mucous, pus, or other offending matter, serves only to irritate the bronchial tubes and aggravate the trouble. But by all means *avoid* cough drops, lozenges, and all cough medicines whose nature and composition you do not understand, and know to be harmless. They all, or nearly all, contain some dangerous or deadly narcotics. Opium, antimony, ipecac and squill, digitalis, poison hemlock, and prussic acid, are the most common remedies of allopathic practice for coughs. To be told that these are harmless does not make them so. They may kill, but cannot cure. They are poisons. One lady cured herself of a bad cough by pressing upon the base of the neck just above the collar bones with her thumb and fingers, and forcibly suppressing the cough whenever inclined. She did not know the secret, or rationale, but she was determined *not to cough*, and got well. Her act was equivalent to holding her breath, which more completely fills and expands the lungs. Volition and deep breathing—holding the breath at each inspira-

tion one or two seconds—is the best remedy for cough ; but those who fail with *ideal* remedies will find nothing better as an aid than one of the following, viz. :—

1. Pure cider vinegar, water, and “ virgin ” or liquid honey ; equal parts. Dose, half a teaspoonful, often as may be found useful. Be sure of *cider* vinegar, and use clover honey. Some honey is poisonous, and some vinegar contains sulphuric acid.

2. Lemon juice, water, and white sugar, in equal parts. Same dose as of No. 1.

All material agents, however, are only temporary expedients. We must learn the art of living. Occupy mind and body cheerfully in some useful pursuit ; breathe fully and deeply of air as pure as can be found out of doors ; expand well the lungs by *voluntary* exercises in breathing, if necessary ; avoid all excesses, —especially sexual abuse, that drains or exhausts the system of vitality ; use plain and wholesome food, vegetarian in preference, especially omitting all pie crust, condiments, baking powders, *salted* and *fried* provisions ; keep the feet and clothing *dry*, and the extremities—the feet and hands—*warm by outdoor exercise*. Let all live in this manner, and very few persons will ever die of consumption or lung difficulties. See that no clothing hinders full and free expansion of the chest. Remember that the chest is elastic, and must have room to expand. Suspend all clothing from the shoulders.

Mental states have a controlling influence over the entire physical organism. Melancholy, misanthropy, fear, anxiety, and grief, as well as all great disappointments, depress and paralyze the vital organs. “Grief sits heavy at the heart.” Undue solicitude corrodes like cancer : fear blanches the cheek and drives the blood from the capillaries to the heart and lungs, and all depression of spirit retards, or stops entirely, the respiration. The mind must be uplifted and the spirit be joyous and free in

order to enjoy health. A proper education and a true philosophy of Being will forever fortify the mind against all injurious and depressing mental influences ; and in absence of this health education the patient must seek the philosopher, *teacher*, mental healer, or magnetist, who can dispel the gloom, fortify the mind, and banish fear. Remember, the true doctor is the *teacher*, as the word implies. But he will not always teach orally, or to outward sense. He must be inwardly equipped with truth and moral power,—an humble servant of that Force or Being that creates and heals. “Silence is vocal if we listen well,” and many patients are susceptible to silent mental power. Thoughts are things, and constitute for the wise *ideal* remedies. Correct the soul, the food, the exercise, and draw life and curative power from the vital air. Learn the art of breathing. If you cannot breathe, run, or jump the rope. Exercise. Exercise, if entered into earnestly, will quicken and deepen respiration, and when once you have discovered the art of breathing, do not neglect it. Inspiration of air is equivalent to inspiration of the soul. It not only purifies the blood, but brushes the cobwebs from the mind. By breathing properly you will become inspired, provided you are free and loyal to truth as it is found in nature and in the laws and principles of our being. There are only two ways to secure permanent health and long life. One is by the *intellectual* understanding of the phenomena and laws of our being ; and the other, by becoming so loyal to truth, and so susceptible to higher *intuitive thought* and wisdom, that the deeper understanding shall always clearly point out the perfect way. Both of these methods may be cultivated at once, and both be utilized. Understanding is the only perfect remedy.

To understand breathing, we may consider the lungs (see “Dutton’s Illustrated Anatomy” for a knowledge of their structure) as the bellows that sustains the fire (life). They are situated

in the chest, above the diaphragm, and are surrounded by the ribs, breastbone (sternum), and dorsal vertebræ (a part of the so-called "backbone"). The arms are attached to the upper part of the chest, and exercise of the arms brings into play some of the muscles of the chest, which contains the lungs. Now, it is a law of our being that exercise of the arms or muscles of the chest calls the blood and vital force to *that part* of the body, and tends to develop it, while inaction tends to atrophy (wasting) of the part. For this reason, exercise of the arms tends to develop the chest and invigorate the lungs. The exercise must be judicious, and increased gradually within reasonable limits. Capacity of lung gives power of endurance. Hence we recommend judicious exercise of the arms to enlarge the chest; not compulsory exercise, but some useful employment or pleasant occupation that calls the arms into use. Tossing or throwing a ball with a partner is splendid exercise. Another way to strengthen the lungs and expand the chest—for the walls of the chest are elastic—is to use the lungs themselves by deep and full inhalations of air. As the lungs are about to fill, the diaphragm (a muscular partition between the chest and abdomen) is drawn downwards, pushing the abdominal organs (stomach, liver, bowels, etc.) before it, and thus making more room for air in the chest. As the diaphragm descends, the air rushes in through the nostrils to fill the lungs. This is called *abdominal* breathing. Now, in case we want a fuller breath than this descent of the diaphragm will give us, then we have to raise the sternum (breastbone) and anterior portions of the ribs, which further enlarges the capacity of the chest. This is called *thoracic*, or *costal* breathing, because it calls the lateral walls of the chest and ribs into requisition. The latter method generally requires some effort of the will, and is a little more laborious. Now, some are particular to have only abdominal breathing, and others prefer the thoracic, or costal.

Abdominal breathing is also called *diaphragmatic* breathing, because done solely by the diaphragm. The latter goes on under the control of the sympathetic nerves and involuntary muscles, without the exercise of volition, as when we sleep; while costal breathing only takes place when there is an *increased* demand for air, or when the *voluntary* muscles are brought into action by an effort of the will. We do not condemn either method. The important thing is to get air into the lungs, and to get a proper interchange between the air in the lungs and the venous blood which comes to the lungs from the right side of the heart through the pulmonary artery. Now, we hesitate not to say that if sufficiently hopeful, joyous, active, or animated (and who is always?), we shall always find a way to breathe sufficiently without effort or especial volition, but otherwise we must attend directly and voluntarily to breathing. If we find ourselves taking a deep and sudden breath known as a "sigh," we should at once give attention to breathing. The sigh is a reminder to us that the blood is too heavily laden with carbon ( $\text{CO}_2$ ). Any soreness in the region of the lungs is another reminder that the lungs need more air. Some think we should always take the air through the nostrils; but when running rapidly or exercising powerfully we shall find that the nostrils are not sufficient, and we must then open the mouth. We must *breathe enough* to properly air the blood, but it is better to breathe through the nostrils always when they are of sufficient capacity to admit what air we need, because the air is both sifted and warmed in the nasal passages; and for another reason still, it is thus made to pass over the olfactory nerves, that act as sentinels to warn us of any noxious substance in the air which we should avoid.

Some people prefer to lie down while practicing deep breathing. The recumbent posture of course frees the muscles whose use is required to keep the body erect, and for this reason may

be easier for delicate patients; but, we repeat, the important thing is *to breathe*; do not stand upon the order, but breathe. Naturally we take only twenty or thirty cubic inches of air eighteen or twenty times per minute. In deep, voluntary breathing we take one or two hundred cubic inches eight or ten times per minute. Hold the breath one or two seconds at each voluntary inspiration, so as to inflate fully the upper part (apices) of the lungs.

The chest is elastic, and can be kept so if we use it rightly. The spinous processes of the dorsal vertebræ, which allow us to stand erect, and also to bend forward, but do not allow us to bend backwards that portion (dorsal portion) of the spinal column very much, must be kept free, and not allowed to consolidate as we grow older. Keep all the joints of the body in play by frequent use long as you live. It can easily be done. Especially must we avoid the stooping habit. If our work requires stooping or bending, do not fail occasionally to relax the bow, or it will lose its elasticity, and become inflexible. Keep the shoulders well off the front part of the chest. Drooping shoulders are as evident signs of weakness as the drooping wings of a bird. Preserve the erect figure, not only on account of health, but of symmetry and beauty. Beauty and health are closely related,—in fact, always associated. Let one small pillow suffice for the head at night. Carry yourself erect in body and mind; love somebody, if you cannot everybody; engage in some useful occupation. Choose wisely your food; masticate it thoroughly. Live in the open air, or in well-ventilated rooms, not too highly heated; leave *drug* doctors to find that they have mistaken their calling; breathe deeply and fully of vital air,—and consumption will cease to rob the world of beauty and loveliness.

There is one other fallacy that has taken possession of the minds of the people since Professor Koch's *wonderful* discovery

of the tubercle bacillus ; viz., the idea that tuberculosis is an infectious disease,—and Gould's new dictionary thus defines it. Now, we repudiate in toto the tubercle bacillus as the *cause* of tuberculosis, or consumption, and also the *infectious* nature of the disease. We *know* of several instances of persons dying of tuberculosis without communicating the disease to any of the household, and of persons who *have slept for weeks* with consumptives without taking the disease.

Dr. Brehmer, who has been in charge of a consumption hospital in Germany for twenty years, where ten thousand patients have resided and commingled freely with the people of the town, states that the disease is not at all infectious.

Physicians, who know, or ought to know, the paralyzing nature of fear, might reasonably be made guilty of misdemeanor for proclaiming the infectious nature of any disease unless such nature is clearly demonstrated. It is well to be cleanly as possible in all respects, but the victim of consumption should not be driven from all society by any mistaken notions of the medical profession. Quarantine, as a means of suppressing the spread of disease, is far *less effectual* than the promulgation of sound sanitary principles. We must remove the cause of disease, and not the victim.

To show the present position of the medical profession in regard to contagion, and at the same time the need of independent thought for ourselves, we quote from the *Lac. Med. Annual* (1890) what is there ascribed to Dr. Geo. M. Gould, author of “A New Medical Dictionary” :—

“ If one thoroughly conversant with the medical progress of the past few years takes up even the best work of pathology or general medicine issued five or ten years ago, he is astonished to find how much seems old and outgrown. The *stupendous* discoveries and advances made from day to day cause the book before the last to seem like history rather than present-day con-

clusions. No other discovery has aroused so great hopes, and none has so superbly satisfied many of them, as that of the existence and disease-producing influence of the minute organisms called bacteria, microbes, or micro-organisms. Their pathogenic influence is now established beyond controversy; and to this discovery is due the revolutionizing of surgery, the extinction of surgical and puerperal fever, etc.

"Indeed, every department of medicine has been electrified by the *partial* success and *perfect promises* that it holds out. The infective diseases are the principal disease and death-producers of the world, and all are quite certainly bound up with the transfer of specific bacteria or poisons from one organism to another. The profound, almost sole, lesson of prophylaxis and preventative medicine, is the avoidance of contagion.

"Phthisis, the most fatal of all diseases, causing one death out of every eight, is now *proved to be contagious*. Its inception depends upon the passage of the living bacillus from one organism to another. When this is prevented, the dread affection will no longer mow down its millions. Its prevention seems easy, and by two feasible simple means: the devitalization of the sputum of consumptive patients, since the desiccated tubercle bacillus still maintains its vitality; and the legal control and inspection of all dairies and the slaughtering of animals, so that tuberculous meat or milk shall not be sold.

"Up to the present time it must be confessed that bacteriological studies have *not* brought out therapeutical measures to equal the etiological importance ascribed to the micro-organism. To the patient attacked with infectious disease, the thing of all importance is not prevention, but cure. The enemy is intrenched. The great aim now is to find some agent that will reach and kill the bacterium, without killing the organ or tissue in which it is secreted. Many indications, and indeed many successes, foreshow that we are *upon the eve* of brilliant victories in this respect, and the active ingenuity of a thousand delvers is at work upon the problem. What honor too great for the discoverer of such an agent? A most promising outlook is also found in the discovery that immunity is gained in some diseases, and perhaps in many, by the inoculation of purely chemical, or artificial synthetic, sub-

stances. The thought, like so many, is *brilliant with possibilities* that make us wish to see what the next few years may bring forth.

"A beautiful illustration of the possible method of action and reaction between the bacterium and leucomaine, is the theory of malarial and intermittent fevers,—a theory, indeed, that rests upon a pretty firm *basis of probability* and justifiable inference. It is well known that bacterian culture media often develop some substance that stops their growth, and that they die, as it were, in their own poison. It is supposed that the malarial micro-organism does the same in the blood, and that the remission or intermission stage of the disease corresponds to the period when the circulating bacteria have been drowned or paralyzed by their self-producing poison. The stage of the return of the fever is synchronous with the revivification of the microbes, or with a fresh invasion of new armies from the spleen and lymphatics. Thus, again and again, are we brought back to the conclusion that in aim and in fact medicine is becoming preventive. Every discovery, even in therapeutics, seems to bear in its hand the motto, 'Prophylaxis is the best cure.' It is not that great and invaluable discoveries of healing agencies are not constantly being made. The nobler aim and the manifest destiny of a far-sighted prevention become necessarily dominant ideals."

The italics are our own.

The profession is still searching for germicides for the cure of disease. When found, they will prove to be *germs of thought*.

#### SONG OF THE BACILLI.

We're an army of bacilli,  
And germs, and micrococci,  
Most numerous to behold!  
We've been brought into distinction  
To cause the quick extinction  
    Of people in the world;  
But sadly do we rue the time  
When scientists "caught on" our crime,  
So ancient, yet so bold!

In former days of medicine,  
'Twas not thought necessary in  
    Bad cases of disease,

For a doctor to decide and tell  
What made his patient ill or well,  
    Unless it him should please ;  
And so an "All-wise Providence"  
Was made to stand the consequence  
    Of causing their decease.

But in these later days of sense,  
The students must be most intense  
    In seeking after wisdom.  
Knowledge microscopical,  
And also biological  
    (And others still to come),  
Is now required by boards of health ;  
But medics often pass by stealth  
    Three years' curriculum !

So great and urgent was the call  
For knowledge of the causes all  
    Which blight the strong and healthy,  
That savants undertook to find  
The reasons for the great decline  
    In health of poor and wealthy.  
So well their task they set about,  
They were not long in finding out  
    Our family so stealthy.

And now Pasteur, and Koch, and Klein,  
Sternberg, and Cohn, and Laveran,  
    Can call us all by name ;  
They know our family history,  
Our pedigree, posterity,  
    And just from whence we came.  
For years we've fought with ghoulish glee ;  
Though small, and very hard to see,  
    We've got there just the same.

But now our tricks so dark are o'er,  
And what we've done with germ and spore  
    Is fully comprehended.  
The doctors know our tendency ;  
Of us they've made a list, you see,—  
    To text-books we're appended.  
Professors make nice diagrams  
    Of us, as well as cryptograms.  
Alas ! our dream is ended.

—*Transactions Ohio Sanitary Association.*

We wish to add to this article on Pulmonary Consumption the scientific statement that *the lungs are made for use, and perish from neglect and abuse.*

While hope dies not *out of the heart*, while *wholesome food and air* are properly used in abundance, and while man *makes proper use* only of his body for the good of himself and others, his lungs will remain sound.

*And now for the specific remedy and prophylactic.*

Fill the lungs by inhaling through the nostrils. This, if well done, will take about *five* seconds. Now hold the breath for *two* seconds; then slowly exhale through the nostrils, consuming *five* seconds more. You have now made one deep and full respiration, and consumed twelve seconds. At this rate you can take only five deep, full respirations in a minute, but they will prove a better medicine than all the drugs in the Pharmacopœia. We will call this the *first* (No. 1) exercise in lung gymnastics. It may be practiced at any time when not engaged in singing, reading, speaking, or other use of the vocal organs.

When the vocal organs are tired by long use, *rest* is the remedy for them: but the lungs rest as the sea rests—never; or, rather, they rest while in action. *Inspiration and expiration* supplement each other. The lungs rest as the pendulum rests in its oscillations. No other part is so vital as the lungs. The air is the very pabulum of life, and without it the whole machinery stands still. The lungs will usually *take care of themselves* if we have ready access to pure air, and are sufficiently *happy and active* in some useful employment. When we are not, we must practice lung gymnastics or die. The accumulation of carbon in the blood puts out the flame of life, as surely as the accumulation of ashes in the stove or furnace stops the draught and puts out the fire. The temple of God must be properly cleansed or the spirit will leave it. “For ye are the temple of the living God.”

Exercise No. 2 consists in filling the lungs as before, and then, while holding the breath, put the will into the muscles, thus sending the arterialized blood forcibly into the extremities, and driving the venous blood quickly back to the heart and lungs, to be revivified. This is done by seizing a cane or broomstick with both hands, and grasping it steadily and firmly, gradually using your whole strength upon it. In absence of the stick or cane you can *imagine* you have one, and the effect will be the same, provided you *put the will* into the muscles. The muscular exercise while holding the breath will occupy five seconds; you will then slowly exhale. Repeat this three times and you will have consumed a minute in taking *four* respirations.

Exercise No. 3 is like the second in all respects but one. Instead of grasping merely with the hands, you stoop over while holding the breath, and imagine you are lifting a heavy weight in front of you. This exercises another set of muscles.

Each exercise occupies one minute; and at least *three minutes of every waking hour* (and ten would be better) should be given to this *inspiring* and life-giving work, unless we are *actively and happily* occupied in some other employment. Gradually increase and continue these exercises until cured. Unless in good heart and strength the patient will require some days, and perhaps weeks, before he can perform these exercises perfectly.

John Wesley, the founder of Methodism, left the following prescription for consumption: "Eat cow-heel soup,"—a dish more common in England than in the United States,—"and every morning *cut up a turf of fresh earth and breathe* into the hole three quarters of an hour." This prescription is given, evidently, to enforce the necessity of *wholesome food, exercise, and deep breathing*.

# KOCH'S BACILLUS, AND THE CURE OF CONSUMPTION.

BY GEORGE DUTTON, A.M., M.D.

[A lecture delivered at Tremont Temple, Boston, Dec. 12, 1890.]

THERE is probably no field of human investigation which at the same time and to the same extent touches the welfare of man, where THEORY, be it true or false, so readily obtains, as in the profession and practice of medicine. Inoculation for the prevention and cure of disease is still only a theory, though tried as an experiment for nearly, or quite two hundred years. Lady Montague introduced inoculation for smallpox into England in 1722, and it was practiced there, prior to Jenner's introduction of vaccination, for nearly eighty years. It was then abolished by act of Parliament, and vaccination indorsed by the same high authority. Another eighty years of vaccination has passed, and now, after millions of people have been vaccinated, England has finally appointed a royal commission to inquire into the effects of vaccination. Whether right or wrong, there are people in this country, who hold positions of trust and honor, who have the most implicit confidence in vaccination as a preventive of smallpox. This confidence, as we believe, comes not from understanding, but from not understanding. It is the confidence that is born of the habit of yielding to authority—of antiquity. The prevailing fashion of the time is supposed to be right, and so we pass on, and only half live, because our theories are false. There is safety only in understanding for ourselves. Vaccination is a great delusion. And this we say not as authority, but as a proposition, or theorem—*quod est demonstrandum*. There is nothing more certain than logic, when sure of our premises and demonstration. It is admitted that vaccine matter, or virus,—more recently called lymph,—is taken from the sore of a cow, or heifer, affected with

smallpox. Now, is it good sense to say that smallpox can propagate anything but its kind? It *is* smallpox; and can smallpox itself prevent, or mitigate smallpox? It never did, and by the immutable laws of nature it never can.

Called by its proper name, vaccination is only inoculation for smallpox; and to communicate smallpox itself is not the means to prevent smallpox; and when the Parliament of Great Britain prohibited inoculation for smallpox, and paid Jenner \$150,000 for introducing vaccination, it built a monument to ignorance almost as conspicuous as the great pyramid of Gizeh.

In order, however, to keep up the delusion of vaccination, the numerous failures which were reported were explained away by the supposition of *spurious* matter,—although the spurious could in no way be distinguished from the true, or genuine, except by trial; and the cases of smallpox which followed vaccination were no longer called variola, or smallpox, but varioloid (resembling smallpox). At first a single mark was said to be sufficient to give exemption for life; but one mark failing, it was found necessary to have two marks, then three; then to revaccinate every seven years, then every three years; and now, in order to make certain, it is considered good practice to revaccinate as often as we hear of smallpox anywhere in the country. But the height of folly, and even tyranny, is reached when we compel vaccination by law. *If* vaccination really protects, then evidently the vaccinated *are* protected, and only the unvaccinated are, or can be, in any danger of infection; so that to be protected it is only necessary to be vaccinated, and instead of compelling others to submit to a hated and dreaded operation, those who desire security should be entirely satisfied by submitting to the operation themselves.

So much we have stated, and other cases might be adduced to show that a theory, entirely baseless and illogical, may be introduced and held in the popular mind for a hundred years

before it is overthrown. Now, why is this? Our people are said to be educated and intelligent. But they are educated only in certain lines. They are not what we might call "*all round*" men and women. For the most part they leave the care of the soul to the clergy, and the care of the body to the doctors. And after surrendering the soul and body, there isn't much left of the individual. Our education is too largely based on human authority; on books and doctors, and not enough on demonstration and self-understanding. What is false, irrational, or absurd, is not a good foundation on which to build. A theory is a question; facts only will bear investigation. The theory of inoculation is entirely irrational. Disease and health are antithetic terms, and approximation to one is a necessary receding from the other. Inoculation is always, to some extent, the introduction of disease; and to introduce disease to secure health, is like introducing darkness to secure light. The farther we depart from evil) the nearer we approach the good; the farther from disease the nearer to health.

Pasteur has gained great celebrity by inoculating for rabies, or hydrophobia; but rabies is not health, and his work proves disastrous. A hundred victims have fallen as a sacrifice to the theory of inoculation for hydrophobia, and the malady is not lessened by inoculation, but increased. We are now confronted with a similar theory for the cure of consumption. It is based on the assumption that consumption is caused by a material and microscopic being known as the tubercle bacillus. This assumption is known as the germ theory, and each special form of infectious disease is supposed to be caused by some particular germ. The germ may be of animal or vegetable origin, and has received various names borrowed from the ancient languages of Greece and Rome. Thus we have the bacilli, bacteria, micrococci, microbes, micro-organisms, etc. They are all minute or

microscopic beings, far too small to be seen by the naked eye. These germs are found lurking everywhere, in our food, and drink, and in the air ; and if the theory be correct, the problem of health consists in isolating these germs, and *keeping them in quarantine*—a somewhat difficult task, as all admit. This theory also leads to the comparative isolation of all patients infected with contagious disease, and is so popular just now among physicians of the regular school, that if left to them, it will probably become a fixture for all time. But the theory is not true. Both science and logic are against it, and the good sense of the people will quickly reject it, if brought to their attention in a sensible way.

We come now to that particular phase of the germ theory which fills the public prints of to-day. A physician of Berlin, Prussia, whose German name (Koch) I shall not attempt to pronounce, but for sake of convenience shall call in plain English Coke, has become widely known in the medical world as the discoverer of the cause of tubercular disease and cholera ; and his friends claim for him the discovery, also, of a remedy for lupus,—a kind of cancer,—and of consumption, at least in its earlier stages. The remedy is injected under the skin, by means of a hypodermic syringe. It is a brownish liquid, and is called lymph, or parataloid. Whether it is tincture of iodine, or some other irritating poison, we are not told. The remedy is still a secret, and the secrecy is undoubtedly a prominent factor in making the so-called remedy widely known.

It is now eight years since Dr. Koch first announced at Berlin the tuberculosis bacillus as the cause of consumption, but up to this time there is no report of any cures. The term “lymph” is a misnomer for the much-vaunted remedy. It is not clear, nor innocent, as the term implies. It is admitted to be a dangerous poison, and at least one man has already fallen a

victim to its use. Robert Lowenstein, as we learn by cable service, died at Frankfort in great agony, after inoculation, and a boy lay insensible for forty-eight hours after receiving the so-called lymph.

It has no action, it is said, on healthy persons, and yet it is a dangerous poison. In accepting it from the so-called medical savans of Germany and America, we are reminded of the Trojan hero who feared to introduce the wooden horse of the enemy into the city. He feared the Greeks even bearing presents. The profession have introduced a good many wooden horses of late, and still we are besieged by the enemies of health and life. We must see the inside of the horse before we tear down our gates and allow the introduction of a poisonous and secret remedy. The medical art is largely wrong, and so far as it is wrong, it is an enemy to health.

Listen while I make good my assertion.

You will admit that medical practice is grossly material. It does not, as a boasted science, recognize any force or power not material; nothing superior to matter. Whatever cannot be laid bare with the scalpel, or discovered with the microscope, has, in the estimation of this science, no ground of being. Now, matter, as such, has no intelligence; no power to move, or stop moving. A railway car does not move without the locomotive; the locomotive does not move without the engineer; and the engineer does not move without will. All depends upon the will, and the will is not material. Yet the will is, and without it the universe is dead. Matter is not the cause of anything, in the truest sense; and the bacillus, being a material substance, is not the cause of consumption.

If the bacillus is the cause of consumption, then there is no hope for the human race; for these microbes, or micro-organisms, are more numerous than the sands of the sea, and as omnipresent

as the air we breathe. A war of extermination waged against bacilli is as futile and fanatical as a war against the wind, or even air. There is only one way to prevent microbes from taking possession of our bodies, and that is to use them ourselves.

The proper use of every organ will keep it in health. The cause of disease lies not in the material realm of being, any more than the tree of knowledge, of which we read in Genesis, was a material tree. A knowledge tree may have branches, but they consist of thoughts and ideas, not matter. We must look for the cause and cure of disease in the mind ; and Dr. Koch will be unable, we think, to find the disease-producing *germs of thought* with his microscope. He may color and mark the bacillus, so as to identify him in tuberculous matter ; but to color ideas, or inject lymph into the bodies of consumptives and Guinea pigs, will not serve to enlighten his fellow-men in regard to the proper use of the lungs. He found that rabbits and Guinea pigs were more easily infected by inoculation for tubercles than cats and dogs and some other animals. It does not seem to occur to him that animals confined in pens are more liable to be diseased than animals that roam at large in the open air. The principles of contagion are not understood. No germ, animal or vegetable, will take root in any soil too unfavorable for its development. Moss grows on the *shady side* of trees ; mold on *damp, cold* walls ; buzzards follow a *sick* horse ; sharks a vessel having on board *dead* bodies ; and parasites frequent only places that *supply them food*. These bacilli, or micro-organisms, that are falsely said to be the cause of disease, are only the concomitants, not the cause : first the disease, then the parasite is the law of sequence. Destroy the parasites, and more will come so long as filth or waste remains. But remove the waste, bury the dead as soon as decomposition commences, and cleanse the person throughout, and you make infection impossible. A pure and healthy person is not suscepti-

ble to contagion of any kind. Ever the greater controls the less, and correct ideas are far more potent than all bacteria. The mind is greater than all material forms. The germ theory is,—no germ, or parasite, no disease; but the truth is, no disease, no parasite. The parasite may aggravate the disease, but is in no true sense the cause. In cholera cases numerous parasites are found; in malaria six or seven different micro-organisms are found; and the vine is attacked by more than a hundred kinds of microbes.

The itch mite, known as the acarus, may be the cause of the itching, but not of the itch. The itch is caused by uncleanliness or neglect.

A louse, even, will not stay upon a clean and healthy scalp; neither will a lung decay that is properly used.

The germ theorists hold that spontaneous generation is impossible; that all organisms spring from the ovum or germ of a previous organism; and it is confidently asserted by these medical savans that "spontaneous generation was given up long ago." It has not occurred to them that the first, the very first, organism ever produced, did not, and could not, by any possibility, have come from the ovum or germ of a previous organism, for there *was* no *previous* organism. All that preceded the first was the will of the Maker, and to form the first is a process properly called spontaneous generation. And if a microscopic form could be developed in the first instance, as it must have been, why not again, and always, under similar conditions. Thus, by invincible logic, we prove that all infectious disease comes not primarily from any germ or bacillus, but from conditions unfavorable to health; and that the true remedy will be found, not in any germicide, but in the culture and development of the mind, that shall reduce all conditions unfavorable to health to a minimum.

If you neglect your garden, weeds will grow; so if you neglect your body, scavengers and parasites will take possession.

The bacillus, or bacterium, feeds only on decomposing matter. "All putrefaction if not dissolved in arefaction," says Bacon, "will in the end issue into plants."

Dr. Pettenkofer, a noted teacher of hygiene in Germany, and the French physicians generally, oppose the ideas and practice of Dr. Koch. It will prove a short-lived wonder if the people examine it rationally. There is nothing of it worthy the attention of a scientific and logical mind. The theory is, pulmonary consumption originates in the sputa of consumptives, which contains the bacillus, and is to be prevented by sterilizing or disinfecting the sputa. It manifestly did not so originate at first, and the first case is the real origin.

The germ theory turns the attention of the people away from the real and true cause of disease, and sinks the profession to the level of studying the natural history of parasites. To be useful to society, physicians must turn their attention to the realm of logic and ideas.

We object to the use of secret remedies for two reasons:—

1. It perpetuates ignorance.

2. It keeps open the door for the admission of dangerous drugs.

What we want of a medical profession to-day is not a secret remedy, which in this case is admitted to be a poison, for a disease which is not understood, but to teach us something more than we know ourselves about the cause and cure of disease. We want to know how to live; and to know, we must not be told simply, but must know the whys and wherefores, the reason, the philosophy of health. We misunderstand the speech of nature, because, forsooth, it is very simple. We often look for the cause in the effect. The meaning of tubercle in the lung has never been interpreted by the profession. Literally, a tubercle is a little kernel or knot in the substance of organs. It has no sensation,

and is undoubtedly dead matter. It is not a living animal or plant, but dead matter, on which microbes may be fed. It is no part of the organ, but something to be eliminated. It is a foreign body, and, like any other foreign body, creates inflammation and suppuration that it may be expelled. It accumulates in the lungs for the simple reason that it is not eliminated in the process of natural respiration.

Deep breathing and momentary retention of air in the lungs cleanses the blood, and through it all the organs of the body.

The people of East India, 1300 B. C., practiced voluntary respirations for the purpose of cleansing the organs, especially those of the chest; and Dr. Bicking has a work entitled "Respiratory Gymnastics for the Cure of Various Diseases, Especially Consumption." Cruveilhier recommends deep breathing as a cure for convulsions; and Professor Lehwess for the cure of stuttering. Aurelius prescribed singing, which is a valuable lung exercise, as a remedy for headache, catarrh, and insanity. But we must breathe actively. Professor Lehwess writes, "Full inhalation does not take place wholly without our volition."

"Breath," writes Dr. Von der Deeken, "breath is an actual vivifying act, and without it all the other vital organs would soon cease acting altogether."

Respiratory gymnastics with proper food and ventilation are the only effectual remedies for pulmonary affections; but we must exercise our lungs as we do our muscles, by volition.

Healthy regions are of little use to the consumptive without deep and voluntary respiratory exercises.

*Later.*—Koch's remedy is now entirely discarded.

## RHEUMATISM.

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RHEUMATISM is a condition of rheum, and is of kindred origin with the word gout. Rheum is from a word that signifies "to flow," conveying the idea that this disease originates in the fluids (blood or secretions) of the body. Gout signifies "a drop"; so called because it was believed to be produced by a liquid which distilled, *drop by drop*, on the diseased part, as stalagmites are formed in limestone caves. The origin of a word, if we understand it, gives us the idea of those who first made use of it. Now, in gout there is a mineral deposit around the joints of the fingers and toes; and this deposit is found to be a combination of uric acid and sodium. The latter (sodium) abounds in salt and baking powders, and these may be its source. Uric acid is supposed by some, indeed by many physiologists, to be a normal, or natural constituent of the urine, so frequently has it been observed; but we entertain the opposite view, convinced, not so much by observation and experiment, as by reason or philosophy. We have found that all science is unitary, and that every fact in nature tends to confirm all *true principles*. Now, facts are abundant to prove that man was *made to be well*, and not to be diseased; and that disease springs always from some *abuse* or *error*, and not from the right application of true principles. Now, if uric acid ( $C_5H_4N_4O_3$ ) is a *normal* constituent of the urine, as is supposed by medical authors, then we must suppose (what is unreasonable) that man was *made to be diseased*; for uric acid is almost wholly *insoluble in water*, and when present in the urinary passages must, by reason of its nature, *irritate and inflame* those passages. It is the nature of uric acid, as of sand or gravel, to irritate, and cause disease. We think, therefore,

we are fully justified in concluding that uric acid is not a normal, but an *abnormal* product.

*Urea* ( $\text{CON}_2 \text{H}_4$ ) is a natural, but waste product, and comes from the oxidation of the nitrogenous tissues of the body. It is, in other words, the waste or ashes of the wornout tissues. Urea is *soluble* in water, and is held in solution in the urine. For this reason it can be thrown off *without* irritation, while uric acid cannot. Now, we know that one of the natural products of fermentation is an acid. The vinous fermentation sets free or develops carbonic acid gas ( $\text{CO}_2$ ); the souring of milk gives rise to lactic acid; the acetous fermentation produces acetic acid, etc. We have, then, some reason to think that the decomposition, or souring, of urea in the system produces *uric acid*. We know what conditions are necessary for fermentation, and we know that such conditions are generally present in the body as people now live. There is often, if not generally, an excess of food remaining unused in the stomach and alimentary canal, and under conditions that generally give rise to fermentation. And we know that fermentation *does* take place in the body by the flatulence, and sour eructations that occur. Now, what do we find in rheumatism? We find an excess of fibrin in the blood, showing that there *is* an excess of albuminous food; we find the inosit (a sweet substance like sugar) of *healthy* muscle changed to lactic, or sarco-lactic acid; and we also find the urine loaded, more or less, with *uric acid*,—all evidences of fermentation, or decomposition.

We have reason to think, then, that so far as any physical change is the cause of rheumatism, it is FERMENTATION, or a process of decomposition, either of an excess of food remaining in the stomach or alimentary canal, or else of waste matters remaining in the colon, or large bowel, beyond a reasonable limit of time; and it may be both. We may then lay it down as a fact,

sustained by good reasons, that *fermentation* of food, or waste products, either or both, *is the physical cause of rheumatism*, and also of many other complaints. As proof that the cause of rheumatism is not generally understood, see "Gould's New Medical Dictionary," in which, under "Rheumatism," he says, "The etiology and pathology are in doubt." He speaks of cold, lactic acid, and also of micro-organisms, as the cause of this complaint. Cold cannot be the cause of disease, any more than it is of health. It is a condition only of the atmosphere, and may be utilized for health as well as for disease. If it was the sufficient cause of rheumatism, then all persons subjected to the influence of cold would become rheumatic. Properly applied, cold as an application is a tonic, and productive of health. Micro-organisms cannot be the primary cause of rheumatism, or any other form of disease, since these creatures never attack a healthy body, or any part of it. They feed only on *dead* matter, not on living; on matter already undergoing decomposition, and falling under the laws of an inferior plane of being.

Dr. John Buchanan, of Philadelphia, came very near the truth when, speaking of rheumatism, he said, "Food ferments;" but he referred the cause of rheumatism, primarily, to the nervous system, which is still a part of the body, while we refer it to the mind that fails to understand, or neglects to profit by a knowledge of, the art of living. This, like all other complaints, is the result of neglecting a proper sanitary and health education. If, then, we are right in ascribing the physical cause of rheumatism to fermentation, the treatment is evident to any philosophic mind. **We must ARREST AND PREVENT FERMENTATION.**

The most prominent symptom of rheumatism is severe, fitful, and lancinating pain, and soreness of the muscles and joints. When in the joints it is called articular rheumatism; and if the joints are swollen and inflamed, inflammatory rheumatism;

when in the region of the loins (lumbar region) it is called lumbago. Pain and soreness of the sciatic nerve, on the back of the hip and thigh, takes the name of sciatica. The latter is, however, more properly called neuralgia (nerve-pain). It is of kindred origin with rheumatism. The same, or a similar trouble, found at the joints of the fingers and toes, with a deposit of mineral matter, known as urate of soda, takes the name of gout. Heart complications, in case of rheumatism, we ascribe to *poisonous drugs* administered in order to kill the pain. The heart is the best protected and the least liable to be affected with rheumatism, of any organ in the body. It is under the dominion almost wholly of the sympathetic system, and is less liable to disease, unless from the exercise of passion and powerful emotions, than those parts that are subject directly to human volition, and more external conditions. Drugs for the removal of pain are *always dangerous*. It is safer to let the pain remain till we learn the lesson or philosophy of its cause and removal. The pain is an incentive to investigation and saving knowledge. The doctor—if he is a *doctor* (teacher)—ought to be able to explain. If he cannot, or will not, he is of little use. Psychopathic treatment is safer than drugs. We abjure the use of drugs almost entirely in this complaint. The only *permanent cure* will be found in the removal of the cause; viz., fermentation in the intestinal canal.

The disease can be most speedily and safely removed by regulating the life, and chiefly in the direction of diet and exercise, but it is necessary to act intelligently. If the inflammation is not too severe to prevent, something may be done by way of relief and cure by the use of hot alkaline (soda water) applications, massage, and friction. The alkaline compress, covered with dry flannel, softens and removes the dry scales of the cuticle, and opens the pores for the elimination of waste; massage

compels a better circulation of the blood; and friction produces a derivation of blood to the part. *Ubi irritatio ibi fluxit* (where there is an irritation there the blood flows) is the law.

Magnetic treatment by a proper and healthy person is often a great relief. It promotes harmonious action of all the various organs of the body.

The regulation of the diet, provided it be intelligently done, is an important part of the cure. To attempt to regulate it, however, by any *arbitrary* rule, is worse than no regulation at all. We must understand the reason for our action.

In all inflammatory disorders there is an excess of fibrin in the blood, showing an excess of albuminous, or nitrogenous food. Animal food, cheese, peas, and beans are highly nitrogenous, and may be wisely *omitted*, or sparingly used, in all cases of inflammation. Eggs are also highly albuminous.

Whey is not, and a patient afflicted with inflammatory rheumatism *could* live upon sweet whey for a few days. It may be obtained at cheese factories. If we wish to hold the excess of fibrin of the blood *in solution* till it can be used in the system, and thus prevent inflammation, let the patient drink freely of *lemon juice*, sufficiently diluted with water to be agreeable to the taste. The juice of nice, fresh (not stale) watermelons is wholesome in their season.

But the important thing to be noticed is fermentation in the intestinal canal. This canal must, therefore, be cleared of all decomposing matters. As to the use of emetics and cathartics for this purpose, it is a matter of choice and good judgment. If the stomach is loaded with foul and fermenting matter, it *may be* the better way to clear it at once by a mild emetic. For this purpose the wine of ipecac or tincture of lobelia, or the two mixed in equal proportions, act promptly and efficiently,—to use medical language,—although it is evident to the thinker that it is

the vital force that does the acting. Before giving an emetic, when thought advisable, see that the hands and feet are warm, and that the contents of the stomach are rendered alkaline by the use of a half teaspoonful of soda, administered in a goblet of warm water. To attend to these two points will prevent griping and unnecessary straining. Thus prepared, let the patient take, while warm in bed, every ten minutes, a goblet of warm water in which is put a teaspoonful of the emetic preparation just mentioned. Two or three doses will generally prove sufficient. After vomiting freely let the patient rest for half an hour, then give a glass of palatable lemonade (lemon juice and water). Avoid the use of future emetics by the moderate use of wholesome food. To clear the large bowel, or colon, we prefer the use of the fountain syringe to any cathartic. Use for the first injection about a quart of water, asking the patient to retain it for a few minutes, five or ten if possible. Subsequent injections may be increased to three or four pints. Having cleared the alimentary and alvine canal, it is necessary to keep them sweet and wholesome. If an individual is cleanly in his habits, selecting only such food as is most wholesome and appropriate, and in quantities necessary only to keep him in the most perfect health, and is cheerful in mind and sufficiently active in body, the entire person will be sweet, and there will be no offensive smell from any part of the body nor from any of its secretions, not even from the alvine discharges. All waste from the body *in a state of perfect health*, will be removed from the body *before it decays*. A little wholesome food with due activity and rest will not ferment and cause rheumatism. Other conditions may aggravate or incite, but they do not *cause* this complaint. A cold, damp atmosphere, wet feet or wet clothing, a sudden check of the perspiration, or a draft of air, even, may be sufficient to *incite* the disease in organisms loaded with foul and

fermenting materials ; but none of these, nor all of them together, is sufficient to cause rheumatism in a body properly fed and cared for. Uric acid is, as we think we have shown, the product of fermentation ; and uric acid with its insoluble crystals is a bad thing to have in the blood. We have no doubt it is always present in inflammatory rheumatism, and furnishes the ready explanation of the pain and soreness. In such cases, alkalies, properly diluted, in order to prevent tissue destruction, may perhaps be temporarily beneficial, but can never cure without the removal of the cause ; viz., fermentation. An alkali will neutralize an acid and render it less corrosive, but does not necessarily dissolve, and remove it from the system. The offending matters must be washed out, and their accumulation and production prevented.

Very few persons ever have rheumatism who abstain from *animal* food and alcoholic drinks ; but *excess* is more to be avoided than the kind of food. Wait for an honest appetite, and endeavor to secure it by honest labor, or cheerful and happy activity, and not by tonics and stimulants. Cathartics may be temporarily useful, but they weaken and exhaust the vital force. If any cathartic is desired, one gram (15 grains) of hyposulphite of soda dissolved in a goblet of water and given at night before retiring, is mild and efficient, not only as a cathartic, but, also, as an antiseptic. If the limbs or joints are inflamed and tender, they may be wrapped in cotton batting. "Chloroform liniment" (2 parts chloroform and 3 parts soap liniment) usually affords some relief. (Soap liniment is composed of soap, camphor, oil of rosemary, alcohol, and water). It is an official preparation, and kept at drug stores. The alkaline treatment for rheumatism, on which some practitioners rely, consists in giving, in ten-grain doses, every three or four hours till the urine becomes alkaline, bicarbonate of soda or bicarbonate of potash. Soon as the

urine becomes alkaline, as tested with litmus paper, then the dose is diminished, and given only once or twice per day, to keep the urine alkaline. It is well to bear in mind that the urine of the herbivora *is always alkaline*, and that the urine becomes *acid* on a diet of animal food. The most popular rheumatic remedy of the regular school at the present time is salicylic acid, or salicylate of soda; but it does not always cure. The reader will understand that the cause of the difficulty must be removed. Dr. Schafhirt, of Washington, recommended as remedies flowers of sulphur (*washed* sulphur is best) and lemon juice, on alternate days; and Dr. Clawson Kelley, of Boston, considered black cohosh (*cimicifuga*) the Samson of the *Materia Medica* for rheumatism.

Nitrate of potash (saltpeter) in five to ten grain doses twice a day may be used with apparent benefit, as it serves to chemically *oxidize the blood*, but is more or less poisonous, and deep breathing is a much safer and better mode of oxidizing the blood. LEMON JUICE, with *suitable diet, exercise, and deep breathing*, is the best internal remedy. For one or two days (in bad cases), the juice of half a dozen or more lemons may be taken daily. It is not a dangerous remedy, but should be made in all cases *palatable* by diluting with water, and adding a *little* sugar if desired. Lemon juice is a natural *physiological* acid, and must not be classed with mineral acids, nor with the pathological products of fermentation, like vinegar. The *juice of ripe acid fruits*—apples, peaches, pears, grapes, oranges, apricots, strawberries, and plums—is useful in rheumatism, but it is better to take the juice only, especially of the orange and lemon. The rind of these contains an acrid essential oil. The seeds and skins of all fruit are indigestible, and for this reason should be rejected. For patients and delicate stomachs, apples and pears are preferable *cooked*, unless they are of the nicest varieties.

*Rye mush* (made of freshly ground rye meal and stirred into *boiling* water) and *milk* forms an excellent diet in rheumatism; or the rye mush may be eaten with sweet cream. It makes an excellent breakfast. If raised bread is used, the less it is fermented the better. Some bread is already half decayed. Beef-steak is better than *poor* bread, though we recommend for this complaint vegetable food, with some milk and cream.

It is necessary to keep the bowels at all times free and active, but this is best done by proper food and exercise. It is better to have at each meal only a few dishes or kinds of food, and a single dish at a meal is safest and best. At first sweet whey, if obtainable, or emonade *without* food, until the system is well cleared,—a day or two,—will expedite the cure. *Brown* (wheat or rye) bread and milk, or, better, rye mush, eaten with a little sweet cream or milk, should not be forgotten. Whole wheat meal bread and butter, fruit, and some kinds of vegetables,—parsnips, boiled onions, and squash, or baked potatoes,—may be used freely, as may be necessary to satisfy an *honest appetite*. \* All spirituous liquors used as a beverage, pie crust, and pastry, and an excess of food of any kind, will retard or prevent a perfect cure.

An alkaline bath, applied with a sponge, is quickly prepared by putting a teaspoonful of soda into a quart of water, or a small spoonful of aqua ammonia may be used in place of the soda. The alkaline bath softens and removes the scarf skin, and should not be too strong or used too frequently; perhaps once or twice a week. A Turkish bath at  $140^{\circ}$  Fah.,—not higher,—properly given once per week, may be very useful. To protect the parts from undue exposure, they may be rubbed daily with an ounce of castor oil dissolved in two ounces of alcohol. The alcohol is better outside than inside the body. Bad cases of rheumatism of years standing may require several months' treatment to effect a perfect cure.

Some persons can tell the approach of a storm by the pain in their limbs. They are walking barometers. The explanation of this may be found in the practice of using *mercury* in some form for the cure of disease. It has long been a favorite remedy for many complaints among so-called regular physicians, and in small doses, also, by homeopaths. It lodges in the bones, and any change in the density of the atmosphere is communicated to the bones by the change in the mercury. The soluble salts of mercury are highly poisonous. Corrosive sublimate is one of these. The latter is a combination of mercury with one of the elements of common salt. We do not know why mercury should ever be given or taken *internally*. It has done *immense* mischief. As an *outward application* to destroy parasites or cleanse an old sore, it is very efficient.

Salted provisions are always, in all cases, more or less injurious in the system when better food can be had. Baking powders and soda are no doubt directly concerned in the production of gout. The urate of soda forms a deposit around the joints. It is better to omit baking powders altogether, and use bread slightly raised with *fresh* yeast, or else aerated or unleavened bread. All fermented and fermenting foods and drinks excite decomposition, and favor the production of rheumatism. Alcohol as a beverage is injurious, for several reasons: it stimulates to excessive use, and also *hardens* the tissues and membranes of the various organs, and thus interferes seriously with their functions. It prevents the oxidation of the blood and the elimination of carbon in the lungs. It is the accumulation of *carbon in the blood* and brain that produces the drunken stupor of the inebriate. The only possible escape of the human race from disease is through the door of prevention. Remove the cause and the effect will cease. Alcohol and salt are good antiseptics, but they are not good food or drink. The *best drinks* to give fluidity to

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the blood are soft or distilled water, the juice of ripe fruits, whey or buttermilk, and homemade lemonade. High inflammatory fever is best reduced by fasting, and drinking freely of pure water well impregnated with lemon juice. The latter, either alone or with water, may be applied with benefit to the skin. Let each successive part be sponged, wiped, and rubbed dry before sponging another part, and thus avoid chills. In all inflammatory disorders, when food is necessary, use rye, or wheat, or barley in preference to Indian corn or oatmeal. The two latter are more heating, and apt to ferment.

Never allow joints to become stiff by inaction. The moment a pain is felt—unless from mechanical injury—drive it away by deep breathing, the use of the will, and exercise.

The motion of stiff joints, unless the bones are actually grown together, can be regained by voluntary and persevering efforts. Sprains and soreness in persons of rheumatic tendency if neglected are liable to become chronic. All injuries are more quickly and easily repaired when the blood is pure and the secretions sweet. Resist every *approach* of disease. Here is wisdom. *Excess* of nitrogenous or albuminous food, fermented or fermenting food and drinks, alcoholic stimulants, *excessive* toil and exposure to dampness, heats and chills, will sooner or later develop rheumatism in any human organism; but reasonable moderation in the use of the muscles, an active life, deep breathing, wholesome food and drink to supply only the necessities of the system, thorough mastication of all food, light, but comfortable and dry clothing, and the daily cleansing of the intestinal tract by a joyous and active life, so as to prevent fermentation in the alimentary canal, or colon, will forever prevent all rheumatism. A horse that stands in the barn and is fed on Indian corn or Indian meal, will, in a few weeks or months, become stiff and lame. Indian meal is too heavy feed for light work, but for heavy teaming is

more suitable. It is not drugs that cure, but right living—understanding.

If any blood medicine is to be used in treating rheumatism, nothing will be found better than the following, viz. :—

Fluid extract of pipsissewa and cimicifuga, of each, one ounce ; alkaline tincture of rhubarb and *deodorized* alcohol, of each, two ounces ; and water, ten ounces. Dose, a tablespoonful before eating. (This is quickly prepared by the druggist.) This remedy, taken before eating, acts as an antiseptic to arrest fermentation, but is never to be given to one accustomed to use intoxicants.

Pure spirit, free from fusel oil, properly diluted, and intelligently used *as a medicine*, is one of our best *antiseptics* to arrest putrefactive tendencies, but is powerless in the organism of those accustomed to its use. Raw alcohol, wood spirit, or any liquor containing fusel oil, is, in its nature, a deadly poison, and should never be used internally. *No internal remedy* is essential for the cure of rheumatism if proper directions are intelligently followed, but still it may be sometimes wise to use an antiseptic.

Hyposulphite of soda is a good antiseptic. Dose, fifteen grains at night in a glass of water. Repeat only as may be necessary to keep the bowels free.

Professor Hare, of the Jefferson Medical College, in his late work (1891) on “Therapeutics,” says that “chronic rheumatism is one of the most difficult and obstinate diseases with which we have to deal ;” and of acute articular rheumatism he says, “The pathologist cannot tell what the cause of the disease is ;” and, “this being the case, we must devote ourselves to the study of pure *empiricism*.” This is certainly frank, but not in keeping with the claim made by some that therapeutics is a science. (Please see “empiricism” in the dictionary.) We will close this article on rheumatism by giving the outline of Professor Hare’s treatment, as embodying the substance of the best so-called regular practice.

For *muscular rheumatism* he recommends pitch plasters, mustard as a counter-irritant, the official veratrine ointment, and, internally, Dover's powder in connection with hot drinks and hot footbaths. (The improved Dover's powder contains opium, ipecac, and sugar of milk.)

For *acute articular rheumatism* he has *thirty* remedies, as follows: viz., aconite, veratrum viride, alcohol, ammonium bromide, antipyrine, antifebrine, benzoic acid, bicarbonate of potassium, citrate of potassium, cimicifuga, colchicum, sulphur, iodine, potassium iodide, oil of gaultheria, potassium nitrate, rhus tox., salicylic acid, sodium bicarbonate, salol, lemon juice, lime juice, citric acid, cold pack, ice-cold compress, capsicum plaster, camphor liniment, veratrine ointment, ichthyol ointment, and blisters. Many of these are active poisons.

For *chronic rheumatism* he has only *twenty* different remedies, and among them are several already mentioned. The ones not previously mentioned are arsenic, baths of sulphides, cod-liver oil, sarsaparilla, and Turkish or Russian baths. Of arsenic, he says it is "very valuable in *some* cases, but *often fails* to be of service." He does not tell us what those cases are in which arsenic *is* valuable.

A late prominent homœopathic author (Raue) has *seventy-two*<sup>72</sup> different remedies for rheumatism, each to be given for some peculiar variety of the complaint. This seems to be the refinement of dialectics in medicine. Seventy-two kinds of rheumatism! and yet rheumatism is only one of 1,146 diseases enumerated by the Royal College of Physicians in London.

Let the reader compare this complication of diseases with the author's idea of the *unity of disease*. Disease is pain or distress of mind. The remedy is understanding. Correct all abuses. Investigate, study, and learn. In this alone is safety.

REMARKS.

Rheumatism has heretofore been difficult of cure as its cause was not discovered and removed. If it is due to fermentation, as we claim and have explained in this article (and the reader can judge for himself), then we have the key to the cure; and if we do not use it, it must be because we do not yet understand correctly the causes that lead to fermentation, and how to remove them. Knowledge, not drugs, is what we want. The author expects soon to publish a complete work on medical practice and the art of living, which, when introduced, will put into the possession of the people all the most valuable truths and acquisitions of the medical profession. It will serve to elevate the standard of medical practice, and give it in reality the dignity and value to the world which it now falsely claims. All useful medical knowledge must become the inheritance of the people. The rights of millions living and unborn demand it.

## PREScriptions.

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1. *For Hæmatoma (blood tumor)*, which often quickly follows confusion of the scalp: Apply as soon as possible flexible collodion with a camel's-hair brush, two or three coats, allowing each coat a moment to dry. If the application is made within an hour the tumor will be reduced in a few hours.

2. *To cure a Bilious attack*.—Take before retiring the juice of two or three lemons in as much water as will make it palatable without sugar. In the morning, on rising, take the juice of one lemon in a tumblerful of warm water, and avoid all greasy food till well.

3. *For Headache caused by Sour Stomach*.—Give a dessert-spoonful of the alkaline tincture of rhubarb and the fluid extract of senna in equal parts. *Repeat, if necessary, in two hours.* Correct the diet.

4. *To arrest the progress of Boils and Suppuration*.—Give sulphide of calcium 1-10 to 1 grain, three times per day for three days. Opinions vary as to the size of the dose. May give it in a gelatine-coated pill,  $\frac{1}{2}$  to  $\frac{1}{2}$  grain, or it may be dissolved in water. A child may take a teaspoonful every two hours of a solution containing one grain to the half pint of water. It is said to fail in boils which attend some cases of diabetes.

5. *Eyewash to allay Pain and Irritation*.—Drop into the eye one or two drops of a weak solution of morphine, one grain to the ounce of water. If the eye is badly inflamed confine the lid with a bandage, and thus give the eye rest.

6. *To destroy Ringworm and all Parasites*.—Apply twice per day for one or two days a solution of two grains of corrosive sublimate to one ounce of water. Write and label, "For external use only."

7. *For Erysipelas and all Zymotic forms of Disease*.—Give a tablespoonful, every two hours, of solution of boric acid in camphor water,—5 grains of the acid to one ounce of camphor water. Give also, freely, as a drink, lemon juice and water diluted to suit the taste. Continue during the height of the fever, unless when the patient is sleeping quietly.

Zymotic disease includes Typhoid Fever, Scarlet Fever (Scarlatina), Diphtheria, Smallpox, Measles, *Erysipelas*, and *Rheumatism*.

8. *For relief of Asthma*.—Smoke saltpeter paper (niter paper). Prepared by saturating white filter paper in a solution of 1 ounce of niter in 4 fluid ounces of water, and drying.

9. *Dutton's Fever Powder*.—Opium, 1 grain, camphor, 2 grains, and ipecac 4 grains, all in powder. Mix thoroughly. Dose of the mixture, one grain every hour, so long as may be necessary to induce gentle sleep or moist perspiration. After four hours, if necessary, the dose may be doubled. With these doses the effect *may be regulated* at will. The smaller dose will usually suffice.

This powder should be freshly prepared, as the camphor will evaporate if long exposed to the air.

To powder camphor, first wet it with alcohol, then rub dry.

10. *For Neuralgia, Gout, and Rheumatism*.—(By a Jew physician of New York.) We introduce this here not because we consider it the best for these difficulties, but the best of *old-time treatment*. Tincture of cimicifuga 2 ounces, wine of colchicum seed 1 ounce, and aromatic tincture of rhubarb  $\frac{1}{2}$  ounce. Dose, one *small* teaspoonful three times per day.

Liniment to be used at the same time: Tincture of opium 1 ounce, tincture of colchicum root 3 ounces, and oil of olives (sweet oil) 2 ounces. Apply daily, with friction.

11. *Superior Hot Drops for Colic, Indigestion, etc.* Tinctures of myrrh, cayenne, sassafras, and peppermint, equal parts. The *essence* of sassafras and peppermint is often used, but is inferior to the tincture. Dose, 5 to 30 drops in warm water sweetened to the taste. It makes a nice cordial.

12. *Diaphoretic Drops*.—Tinctures of serpentaria, saffron, crawley or fever root, and ipecac, of each 1 ounce; and of camphor, opium, and jaborandi, of each  $\frac{1}{2}$  ounce; mix. Dose, one teaspoonful in a cup of warm drink, and repeat, if necessary to induce sweating, in half an hour.

13. *Balm of a Thousand Flowers*.—Oils of citronella, neroli, and rosemary, 1 dram each in 1 quart of cologne spirits (rectified alcohol). An elegant perfume.

14. *Mother's Cordial*.—Mitchella (squaw vine), aletris (unicorn root), viburnum prunifolium (black haw bark), viburnum opulus (cramp bark), and glycyrrhiza, equal parts. May use the tinctures or fluid extract. Dose, one teaspoonful of the tinctures, or half as much of the fluid extracts daily for several weeks previous to parturition in cases of debility, or nervous irritation. If preferred, the ingredients may be *used separately*. Endeavor to improve all sanitary conditions.

15. *Female Regulator*.—Senicio aureus (life root or squaw weed). Dose of the fluid extract, one teaspoonful.

16. *Ointment for Piles*.—Plaintain leaves, bruised and simmered in sweet cream; or bark of sweet elder treated in the same way. Rinse the piles well with *cold water*, apply the ointment, and return the bunches within the bowel if any protrude.

17. *Dyspeptic Pills.*—(1) Dry extracts of boneset and ox gall, equal parts, made into medium-size pills. To be taken after dinner and on retiring at night. Dose, 1 to 4 pills.

(2) White castile soap 6 parts, powdered rhubarb and golden seal, of each 1 part. Make into medium-size pills. Dose, 1 pill three times per day *before eating*.

(3) Brown-bread pills rolled in liquorice powder. Given as a placebo while a better *regime* is observed.

18. *For Scaly Eruptions of the Skin and Dandruff.*—Apply to the skin, or wash the scalp with the following: Dissolve 40 grains of borax in 1 ounce of glycerine and 4 ounces of water. Apply daily with friction.

19. *Dyspepsia Powder.*—Equal parts washed sulphur, ipecac, and capsicum. Dose, one *small powder*, 1 or 2 grains three times per day. If you wish to increase the *size* of the powder, add powdered liquorice root.

20. *Cosmetic.*—Tincture of benzoin, 1 dram to a pint of water. For *immediate use* there is nothing better than fresh lemon juice and water.

21. *Antiseptic Laxative.*—Hyposulphite of soda. Dose, 10 to 15 grains in a glass of water at night.

22. *Cooling Wash for all Itching and Skin Diseases (valuable).*—½ ounce tincture of veratrum viride, ½ ounce glycerine, 1 ounce fl. ext. physotolacca decandra, 2 drams pulverized sal ammoniac, 1 dram sulphate of magnesium, 1 dram of borax, and 6 ounces of water. Mix and apply two or three times per day. It seems to irritate at first, but soon produces a cooling and curative effect. Mark "External Wash."

23. *Antiseptic Lotions, for Cancer, Ulcers, Pruritus, etc.*—Tincture of myrrh; solution of boric (boracic) acid; fluid extract of baptisia, one part, in five parts alcohol; or the following mixture: oil of cade, 1 ounce; green soap and glycerine, of each ½ ounce; and alcohol, 4 ounces. Mix, and use twice a day. The solution of boric acid contains 1 ounce of the acid to 1 quart of water.

24. *To check Vomiting.*—Give warm water, or water with a little soda, to *cleanse the stomach thoroughly*. Then let it rest. The stomach needs rest as well as the muscles. The following will often turn nausea, viz.: lime water and milk, equal parts; a little salt; or vinegar and water equal parts; a sinipism applied over the stomach. If none of these turn the sickness, **LET THE STOMACH REST**, and confine your attention to removing the cause. It is not wise to give violent remedies to subdue reflex action.

25. *To cleanse Ulcers and Old Sores.*—Wet twice a day with tincture of myrrh.

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